**IT Applications Unit 3, AOS 2, Organisations and Data Management**

**Structure and role of relational databases, p 101**

**Describe the following relationships in a relational database.**

1. One-to-one relationship

A one-to-one relationship is used when a record in one table is connected to only one record in the second table.

1. One-to-many relationship

A one-to-many relationship indicates that one record in the first table can be connected too more than one record in the second table.

1. Many-to-many relationship

A many-to-many relationship is used when each record in the first table can be connected to a number of records in the second table.

**Determining a RDBMS structure**

Need to determine which field in each database will be the primary key

1. What are the roles of foreign keys?

**Read the document, Primary keys/ Foreign keys**

b. describe the characteristics of a foreign key.

What is meant by referential integrity?

**Table normalisation**

1. What is the role of table normalisation?

Normalising the table will normally occur after the breakdown of data required into the tables and fields. The normalisation rules are intended to give the database designer a tool to ensure that data integrity in maintained.

1. There are six “normal forms”, each rule applied successively from the first normal form, (1NF).

Describe the nature of the following three “normal forms”.

* 1. First normal form, (1NF)

This rule states that at each field and record intersection there is only one value.

* 1. Second normal form, (2NF)

In situations in which you have one primary key field in a table, each non-key field must be fully dependent on the key.

* 1. Third normal form, (3NF)

Every field in a table must relate to the primary key.

**Read the article, normalisation for more explanation of this process.**